

IN THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

1. (Original) A radio system comprising:

a radio transmission apparatus provided with a transmission section that transmits a radio signal which multiplexes a modulated signal without the signal being carried on a center frequency and a pilot signal having a center frequency identical to said center frequency; and

a radio reception apparatus provided with an antenna that receives said radio signal, a distribution section that distributes the received signal received by said antenna into two directions, an extraction section that extracts a signal component corresponding to said pilot signal from one received signal distributed by said distribution section and outputs the signal component, a delay addition section that gives a delay to the other received signal distributed by said distribution section and outputs the signal and a quadrature demodulation section that frequency-multiplies the output signal of said extraction section by the output signal of said delay addition section and carries out quadrature demodulation.

2. (Original) A radio reception apparatus comprising:

an antenna that receives a radio signal which multiplexes a modulated signal without the signal being carried on a center frequency and a pilot signal having a center frequency identical to said center frequency;

a distribution section that distributes the received signal received by said antenna into two directions;

an extraction section that extracts a signal component corresponding to the pilot signal having a center frequency identical to the center frequency from one signal distributed by said distribution section;

a delay addition section that gives a delay to the other received signal distributed by said distribution section; and

a quadrature demodulation section that frequency-multiplies a signal component corresponding to said pilot signal extracted by said extraction section by said other signal with a delay added thereto by said delay addition section and carries out quadrature demodulation.

3. (Original) The radio reception apparatus according to claim 2, wherein said quadrature demodulation section comprises:

a phase shift section that applies a 90-degree phase shift to a signal component corresponding to said extracted pilot signal;

a first frequency multiplier that multiplies said other signal with said delay added thereto by a signal component corresponding to said pilot signal with said 90-degree phase shift applied thereto;

a second frequency multiplier that multiplies said other signal with said delay added thereto by a signal component corresponding to said pilot signal; and

another delay addition section that adds a delay equivalent to a delay generated by said phase shift section to a signal component corresponding to said pilot signal multiplied by said second frequency multiplier.

4. (Original) The radio reception apparatus according to claim 2, further comprising an amplification section that amplifies said one signal distributed by said distribution section and outputs the amplified signal to said extraction section.

5. (Original) The radio reception apparatus according to claim 2, further comprising:

a reception power calculation section that calculates a reception power value of said received signal based on amplitude of an output signal of said quadrature demodulation section; and
a variable gain amplification section that is disposed before said distribution section and amplifies said received signal according to said reception power value.

6. (Original) The radio reception apparatus according to claim 2, further comprising:

a temperature measuring section that measures a temperature; and
a delay amount calculation section that calculates an amount of delay based on said temperature,
wherein said delay addition section changes a delay to be added based on said amount of delay calculated.

7. (Original) The radio reception apparatus according to claim 2, wherein said quadrature demodulation section is used as a frequency multiplication section that frequency-multiplies a signal component corresponding to said pilot signal extracted by

said extraction section by an output signal of said delay addition section.

8. (Original) The radio reception apparatus according to claim 2 to which a superheterodyne scheme is applied, further comprising:

a filter bandwidth control section that generates a control signal for controlling a filter bandwidth;

a local signal oscillation section that controls and oscillates a bandwidth of a local oscillation signal based on said control signal; and

a frequency multiplication section that is disposed before said distribution section and frequency-multiplies said received signal by a local oscillation signal whose said bandwidth is controlled,

wherein said extraction section changes the bandwidth to be extracted based on said control signal.

9. (Original) The radio reception apparatus according to claim 2, further comprising:

a reception power calculation section that calculates a reception power value of said received signal based on amplitude of an output signal of said quadrature demodulation section; and

a variable gain amplification section that amplifies a signal subjected to quadrature demodulation by the quadrature demodulation section according to said reception power value.

10. (Original) The radio reception apparatus according to claim 2, further comprising a band limiting filter that is disposed before said delay addition section that removes a signal component corresponding to a pilot signal having a center frequency identical to the center frequency of said other signal distributed by said distribution section from said other signal.

11. (Currently Amended) A radio transmission apparatus that transmits a multiplexed signal which multiplexes a modulated signal without the signal being carried on a center frequency and a pilot signal having a center frequency identical to said center frequency, comprising:

a modulated signal generation section that generates said modulated signal;

a local oscillation signal generation section that generates a local oscillation signal;

a quadrature modulation section that frequency-multiplies said modulated signal using said local oscillation signal generated by said local oscillation signal generation section, increases the frequency and performs quadrature modulation;

a delay addition section that adds a delay to said local oscillation signal generated by said local oscillation signal generation section; and

a combiner that multiplexes a signal after said quadrature demodulation modulation by said quadrature demodulation modulation section with a local oscillation signal as said pilot signal with a delay added by said delay addition section so that the phases of the signals match after said quadrature demodulation modulation.